Supplementary file 1: NHQI theory of change

<!--Col Count:9--> Input		Activities		Output		Intermediate Outcome
State leadership State QI champions. **HSDF input** 6 Quality Improvement Officers. 6 Data analysts. Prototype change packages. Job aids. Lean and six sigma training. QI *how-to* tools. **Health facilities** Health care providers. Equipment and supplies e.g. Bag and mask. **Partner**s	Enablers: Effective partnership, adequate human and capital resources	**Establish Collaboratives** Establish separate learning platforms for PHCs, public hospitals and private facilities. Develop selection criteria for facility QI teams and allow the state to conduct selection. Working with the state, establish QI teams in all health facilities. Establish WhatsApp chat groups to facilitate continuous communication. Test facility mentor-mentee approach. **Capacity building** Leadership and Facilitation training. Training on data management for state and facility	Enablers: Motivated QI teams, quality training, dissemination of documents	**Collaboratives** Clear roles of state-level QI teams. Functional state and facility QI teams as evidenced by regular meetings. Enhanced peer-peer learning platforms. Protocol for facility mentor-mentee approach. Facility advancement to graduation. **Competent workforce** State and facility-level QI teams with knowledge of QI methodology as evidenced by testing of local change ideas. Clinically competent	Enablers: Effective collaboration between the QI team and other facility staff	**Strengthened and responsive health system** The institutionalisatio of QI in facilities a agencies. Improved governance and accountability structures at the agencies. Increased use of Q knowledge and skills for decision making at the stat and facility levels. **Improved quality care** Improved matern and neonatal process indicators Application of bes clinical practices. Improved management of obstetric complications and neonatal ailments

<!--Col Count:9-->Input		Activities		Output		Intermediate Outcome
NURHI-PPFP SMOH, HSC, HEFAMAA, PHCB QI teams.		staff. Continuous QI capacity building for state and facility QI and data champions. Strengthen the clinical capacity of healthcare providers. Conduct monthly facility-based coaching and mentoring. Train and support facility QI teams to identify and test change ideas. **Measurement and evaluation** Pre-baseline/baseline assessment. Assessment of patient experience. Analysis of monthly data. Strengthening data management at the state level. Conduct review		healthcare providers. **Data and tools** Baseline data, including patient experience. Measurement SOP Relevant job-aids and standardised materials for coaching and mentoring. Dashboard and narratives. Corrective action plans.		

<!--Col Count:9-->Input		Activities		Output		Intermediate Outcome
		meetings for performance assessment, accountability and dissemination.				

* Adapted with permission from HSDF. Nigeria Healthcare Quality Initiative (NHQI): Lagos Overview

Supplementary file 2: Overview of data collection*

<!--Col Count:6-->Data collection method	State (governmental and non-governmental)	PHC	Public hospital	Private facility	Total
Document review	3 documents on NHQI design and implementation	15 QI meeting reports (from 6 PHCs)	87 QI meeting reports (from 14 hospitals)	38 QI meeting reports (from 8 private facilities)	**143**
Key informant interview	12 (in 4 organisations)	9 (in 3 PHCs)	11 (in 4 hospitals)	13 (in 7 private facilities)	**45**
Observation of meetings		5 cluster meetings	-2 learning sessions -6 cluster meetings	-2 learning sessions -2 QI leadership training	**17**

*To protect anonymity a detailed breakdown of interviewees is not provided